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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,736	05/27/2005	Louis Dubertret	P08652US00/BAS	4693
881	7590	10/11/2007		
STITES & HARBISON PLLC 1199 NORTH FAIRFAX STREET SUITE 900 ALEXANDRIA, VA 22314			EXAMINER KARPINSKI, LUKE E	
			ART UNIT 4173	PAPER NUMBER
			MAIL DATE 10/11/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/536,736

Applicant(s)

DUBERTRET ET AL.

Examiner

Luke E. Karpinski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 1 sheet.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-25 are currently pending.

Claims 1-25 are being acted upon in this action.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,417,961 to Nearn et al.

2. In the instant application a make-up composition is claimed. The composition comprises of standard cosmetic components, such as, a hydrophobic and hydrophilic phase forming an emulsion. The main inventive component is fluorescent semiconductor nano-particles. The particles are claimed to be different metal complexes coated in a plurality of hydrocarbon chains having an outer hydrophilic group, which renders the particle water-soluble.

3. Nearn et al. disclose a make-up composition (abstract) comprising, as the pigment a cosmetically acceptable fluorescent semiconductor nano-particle (abstract), a continuous hydrophobic phase (abstract), a continuous hydrophilic phase (abstract), within a cosmetic vehicle (abstract), wherein the cosmetic vehicle is a W/O emulsion

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(abstract), wherein the fluorescent semiconductor nano-particle is dispensed in the hydrophobic phase of the cosmetic vehicle (abstract), and wherein the composition is characterized in that it is a cream (col. 2 lines 25-27).

4. The instant application claims a make-up composition and Nearn et al. claim a sunscreen composition; these compositions are seen to read on each other because both compositions comprise of the same components and are both cosmetic compositions, therefore there is seen to be no difference between the two compositions. The fluorescent semiconductor taught by Nearn et al. is ZnO, as disclosed in claim 15 of the instant application. The aqueous phase reads on a hydrophilic phase and the organic phase reads on a hydrophobic phase.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Applicant Claims
2. Determining the scope and contents of the prior art.

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3. Ascertaining the differences between the prior art and the claims at issue, and resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,417,961 to Nearn et al. in view of US Patent No. 6,319,426 to Bawendi et al.

Applicant Claims

7. Applicant claims a make-up composition comprising fluorescent semiconductor nano-particles dispersed in an emulsion. The main functionalities of the nano-particles in the instant application are that they are in the nano size range and that they have fluorescent properties. Applicant claims that the emulsion comprises a hydrophobic and hydrophilic phase, either of which may contain the nano-particles. As claimed by Applicant, the semiconductor nano-particles may be made of a plurality of different

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elements and may consist of a mixture in any combination. As claimed, the nano-particles may have a core/shell structure with the core and shell being different semiconductor materials. Applicant claims that the nano-particles may be coated with a hydrophobic ligand and that one or more nano-particles can be complexed into a micelle, having a hydrophilic envelope, which may comprise of several different materials.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

8. Nearn et al. teach all of the limitations of Claims 1-6 in the instant application; a composition comprising fluorescent semiconductor nano-particles, a W/O emulsion consisting of a hydrophobic and a hydrophilic phase, wherein the nano-particles are located in the hydrophobic phase (abstract).

Bawendi et al. teach a water-soluble semiconductor nano-particle capable of fluorescence (abstract). Bawendi et al. also teach a semiconductor nano-particle which is soluble in a hydrophobic phase (Figure 5B). Bawendi et al. also teach many of the nano-particles comprising the semiconductors disclosed within claims 8, 9, 10, 12, 14, 15 (col. 11, lines 56-65; col. 12, lines 33-55), the same citation also discloses using a plurality of these materials and using these materials in a core/shell structure. The abstract discloses the core/shell structure as well. Bawendi et al. also teach nano-particles having been previously coated with a hydrophobic ligand (col. 12, lines 62-67). Bawendi et al. also teach the nano-particles being complexed into a micelle having a hydrophobic core and a hydrophilic envelope (Figure 1). Bawendi et al. teach the

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specific nano-particles that are claimed in the instant application. Bawendi et al. also teach a compatibility treatment of the nano-particles (col. 8, lines 20-28).

***Ascertainment of the Difference Between Scope the Prior Art and the
Claims***

(MPEP §2141.012)

9. Nearn et al. does not teach:

- 1) The fluorescent semiconductor nano-particles being dispersed in the hydrophobic phase.
- 2) The nano-particles comprising of any of the semiconductors disclosed within claims 8, 9, 10, 12, 14, 15; other than ZNO; or a mixture of a plurality of any semiconductors.
- 3) The nano-particles have a core/shell structure.
- 4) One or more nano-particles having been previously coated with a hydrophobic ligand or being complexed into a micelle.
- 5) Provision of the nano-particles.

Bawendi et al. does not teach

- 6) The nano-particles for use as pigments in cosmetics.
- 7) The particles in an emulsion.

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- 8) All of the semiconductor combinations as described in instant claims 8, 9, 10, 12, 14, and 15.
- 9) Introduction of the nano-particles into a cosmetic vehicle.

***Finding of Prima Facie Obviousness Rational and Motivation
(MPEP §2142-2143)***

10. It is seen by the Examiner that the main inventive concept is that fluorescent nano-particles are added to a cosmetic. Nearn et al. teach a fluorescent nano-particle in a cosmetic and Bawendi et al. teach all of the limitations of the fluorescent nano-particle claimed by Applicant. It would have been obvious to one of ordinary skill in the art at the time of the invention to simply exchange one nano-sized fluorescent particle for another nano-sized fluorescent particle.

11. Bawendi et al. teach the nano-particles in the hydrophobic phase (1), the nano-particles comprising many of the semiconductor combinations (2), the nano-particles having a shell/core structure (3), and the nano-particles being coated with a hydrophobic ligand and complexed into a micelle (4).

12. Nearn et al. teach fluorescent nano-particles being in an emulsion (7) within a cosmetic (6).

13. It would have been obvious to one of ordinary skill in the art at the time of the invention to use any of the combinations (8) disclosed in the instant claims 8-10, 12, 14, and 15. Bawendi et al. disclose many of the combinations and anyone in the art would

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have seen that other element with the same properties could have been substituted in place of the disclosed elements.

It also would have been obvious to one of ordinary skill in the art at the time of the invention to provide the nano-particles (5) and then to introduce them to the chosen carrier (9). This is simply seen as routine addition of components well known in the art.

Obviousness Double Patenting

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claim 18 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent Application No. 10/219,440.

Applicant claims a composition comprising:

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- 1) Fluorescent semiconductor nano-particles
- 2) In a cosmetic vehicle.
- 3) Particles coated with a hydrophobic ligand and complexed into a micelle of between 5-45 nm.
- 4) Micelle formed of a hydrophobic core and hydrophilic ligand, each containing a plurality of groups.
- 5) Each hydrophobic group being a chain of at least 8 carbon atoms and the number of carbon atoms for all the hydrophobic chains of a single group being greater than 24.

Claim 1 of U.S. Patent Application No. 10/219,440 claims:

- 1) A metal or semiconductor nano-particle.
- 2) In an aqueous medium.
- 3) Nano-particles coated with a hydrophobic ligand, being encapsulated in a micelle, with a size range of 5-45 nm.
- 4) Micelle formed of a hydrophobic core and hydrophilic ligand, each containing a plurality of groups.
- 5) Each hydrophobic group containing at least one lipid, wherein the lipid comprises at least two hydrophobic chains, each chain comprising of at least 8 carbon atoms and the number of carbon atoms for all the hydrophobic chains of a single group being greater than 24.

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Application 10/219,440 claims a water-soluble complex in an aqueous medium; an aqueous medium is seen as a cosmetic vehicle

Application 10/219,440 also claims a lipid as the hydrophobic group, this reads on a chain of at least 8 carbon atoms and the number of carbon atoms for all the hydrophobic chains of a single group being greater than 24.

Application 10/219,440 does not claim that the particles are fluorescent but the fluorescence of the particles is seen as an inherent property.

Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time of the invention to simply add the complex in Application No. 10/219,440 to a make-up composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Claims 1-25 have been rejected.

Telephone Inquiries

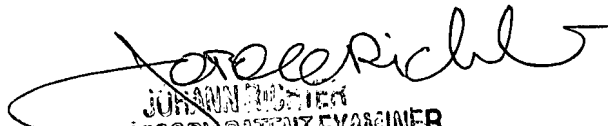
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke E. Karpinski whose telephone number is 571-270-3501. The examiner can normally be reached on Monday Thursday 9-4 est.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisors, Ardin H. Marschel or Cecilia Tsang can be reached on 571-272-0718 or 571-272-0562 respectively. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LEK


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